

20. CANCEL.

21 (4). (new claim) The motor of claim 12 wherein fixed tiles, lugs or pads made of magnetic material which constitute the stator poles are disposed on one unique wall of the guidance stator tube.

22 (12). (new claim) The motor as claimed in one of claims 13-15, wherein the active part comprises a magnetic short-circuit plate made of a soft ferromagnetic material disposed on the face of the active part parallel and opposite to the stator poles in such a way as to create an image of the stator poles, wherein fixed tiles, lugs or pads made of magnetic material which constitute the stator poles are disposed on one unique wall of the guidance stator tube

23 (13). (new claim) The motor as claimed in one of claims 13-15, wherein the rail comprises a rectangular U-profile member on two opposite internal walls of which are fixed lugs or pads made of magnetic material which constitute the stator poles.

24 (14) (new claim) The motor as claimed in one of claims 13-15, wherein the active part comprises a magnetic short-circuit plate made of a soft ferromagnetic material disposed on the face of the active part parallel and opposite to the stator poles in such a way as to create an image of the stator poles.

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REMARKS

In order to promote administrative efficiency and better communication, the Examiner is invited to make suggestions at any time during the proceedings, via phone, fax or e-mail, whenever such suggestions are within the Examiner's discretion as an aid to placing the claims in order for allowance in a timely manner.

As an aid to the Examiner, Applicant suggests that after allowance, the claims be renumbered in the following order, and then renumbered consecutively: 1, 5, 12, 21, 13, 14, 15, 3, 4, 23, 24, 22, 17, 18, 6, 7, 8, and 19. Note that the suggested numbers of the claims after renumbering are indicated in parenthesis after the original number.

Regarding Claim 1:

The Examiner rejected claim 1 under §112, second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter of the invention. Applicant believes that the deletion of the phrase "a moving rig having" eliminates the need to separate the elements as the confusion caused by these words is no longer present. Therefore, this amendment fully responds to the Examiner's rejection and the claim, and all claims dependent therefrom, now may be passed on to allowance. Acknowledgement of this fact is respectfully requested.

Regarding claim 13:

The Examiner rejected claim 13 under §112, second paragraph, and suggested an amendment to this claim. Applicant has amended the claim by replacing "fed by" with "supplied by" in order to clarify the claim. The flux in the coil is actually supplied by one or the other of the magnets depending on their relative position. It is therefore believed that "supplied by" is more accurate language here. Applicant therefore believes this claim too, and the claims dependent therefrom, are now in condition for allowance. Acknowledgement of this fact is respectfully requested.

Allowable Subject Matter:

Applicant thanks the Examiner for his indication that, in general, all pending claims are allowable, assuming that the §112 rejections are overcome. Regarding

claims 2-12 and 14 to 20, it is submitted that claims 1 and 13 are now in a condition for allowance and that therefore, the dependent claims that are not now cancelled and the added claims are allowable as well. Acknowledgment of this fact is respectfully requested.

Conclusions:

Applicant respectfully submits that the claims, as amended, are now in condition for allowance. No new matter has been entered by this amendment. Any limitations to the claims are made solely for the purpose of expediting the prosecution of the application and, unless otherwise expressly stated, are not made to narrow, vis-à-vis the prior art, the scope of protection which any subsequently issuing patent might afford. Again, if the Examiner has further questions, he is invited to contact the undersigned at phone 011-4122-346-8744, fax at 011-4122-346-8960 (Geneva is 6 hours ahead of Eastern Std Time), or e-mail at moetteli@bugnion.ch.

The Undersigned authorizes the Commissioner to charge any fee or credit any overpayment of any fee under 37 CFR §1.16 and §1.17 which may be required in this application, in particular, any additional claim fees that may be due, to the deposit account of BUGNION S.A., no. 50-0800.

Date : July 19, 2003

Respectfully submitted,


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U.S. Reg. No. 35,289

CLEAN COPY OF PENDING CLAIMS

1. (twice amended) A flux-switching linear motor with at least two phases, comprising:
 - d. at least two field coils each surrounding a magnetic armature defining moving magnetic poles, and
 - e. two permanent magnets magnetized in opposite directions, transverse to the axis of a guidance stator tube, the stator tube having magnetic poles disposed along at least one wall of the stator tube so as to be successively facing the moving magnetic poles during the travel of a moving rig, and
 - f. means for switching the direction of the current in the coils,wherein the permanent magnets are disposed outside the coils and magnetized along an axis parallel to the axis of the coil, and the stator magnetic poles comprise pieces made of magnetic material fixed in a guidance tube made of amagnetic material, the dimension of the magnets as measured along their magnetic axis being chosen so as to create narrow gaps to allow movement of the magnets past the stator poles.
2. CANCEL
3. (twice amended) The motor as claimed in one of claims 13, 14 or 15, wherein magnets of opposite polarity which relate to a phase are disposed symmetrically in front of and behind the coil in the direction of motion.
4. (twice amended) The motor as claimed in one of claims 13, 14 or 15, wherein the magnets of opposite polarity which relate to a phase are disposed symmetrically with respect to the plane containing the axis of the rail.
5. (twice amended) The motor as claimed in claim 1, wherein the guidance stator tube comprises a rectangular U-profile member on two opposite internal walls

of which are fixed lugs or pads made of magnetic material which constitute the stator poles.

6. (twice amended) The two-phase motor with two coils as claimed in claim 13, wherein the axes of the coils are offset by a quarter or three quarters of a spacing relative to the stator spacing defined by the distance between the positions of two consecutive stator pole pieces.
7. (twice amended) The three-phase motor with three coils as claimed in one of claims 1, 5, 12-15, and 22, wherein the phases are offset by a third or two thirds of a spacing relative to the stator spacing defined by the distance between the positions of two consecutive stator pole pieces.
8. (twice amended) The motor as claimed in one of claims 1, 5, 12-15, and 22, wherein subassemblies which constitute each of the phases are articulated together.
9. CANCEL
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12. (twice amended) The motor as claimed in claim 1, wherein an active part comprises a magnetic short-circuit plate made of a soft ferromagnetic material disposed on the face of the active part parallel and opposite to the stator poles in such a way as to create an image of the stator poles.
13. (twice amended) A flux switching linear motor comprising:
 - an active part with at least two phases, each phase comprising at least:

- a magnetic core,
- an electric winding wound around at least one part of the magnetic core, and
- two magnets; and
- a passive part including:
 - a non magnetic rail defined along an axis, and
 - a plurality of independent ferromagnetic tiles, regularly spaced on said rail,in which the induced magnetic flux in the winding is mainly supplied by the first magnet in a first relative position of the active and of the passive parts, and is mainly supplied by the second magnet in a second relative position of the active and of the passive parts.

14. The motor of claim 13, wherein the two magnets are polarized in opposite directions parallel to the magnetic core.

15. The motor of claim 13, wherein the two magnets are polarised in opposite directions perpendicular to a surface of the non magnetic rail.

16. CANCEL.

17. (amended) The motor as claimed in one of claims 5, 12, 13-15, and 22, wherein the active part is supplied with DC current and that the means for switching the current are mounted on the active part.

18. (twice amended) The motor as claimed in one of claims 5, 12-15 and 22, wherein the active part contains, parallel to the axis of the coils, feedthroughs made of soft ferromagnetic material.

19. (amended) The motor as claimed in one of claims 1, 5, 12-15, and 22, wherein two consecutive phases share a common magnet.

20. CANCEL.

21. (new claim) The motor of claim 12 wherein fixed tiles, lugs or pads made of magnetic material which constitute the stator poles are disposed on one unique wall of the guidance stator tube.

22. (new claim) The motor as claimed in one of claims 13-15, wherein the active part comprises a magnetic short-circuit plate made of a soft ferromagnetic material disposed on the face of the active part parallel and opposite to the stator poles in such a way as to create an image of the stator poles, wherein fixed tiles, lugs or pads made of magnetic material which constitute the stator poles are disposed on one unique wall of the guidance stator tube

23. (new claim) The motor as claimed in one of claims 13-15, wherein the rail comprises a rectangular U-profile member on two opposite internal walls of which are fixed lugs or pads made of magnetic material which constitute the stator poles.

24. (new claim) The motor as claimed in one of claims 13-15, wherein the active part comprises a magnetic short-circuit plate made of a soft ferromagnetic material disposed on the face of the active part parallel and opposite to the stator poles in such a way as to create an image of the stator poles.

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